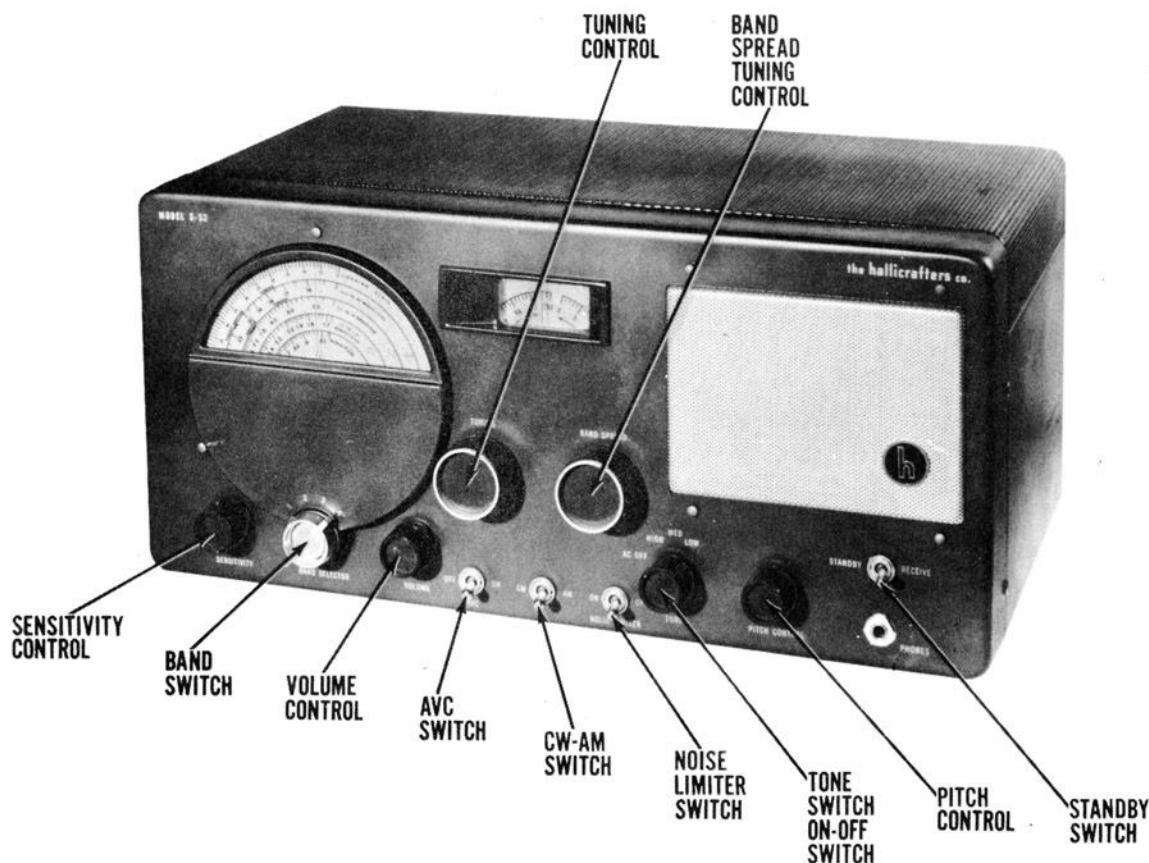


**HALLICRAFTERS
MODEL S-52**



**HALLICRAFTERS
MODEL S-52**

HALLICRAFTERS MODEL S-52

TRADE NAME	Hallcrafters, Model S-52
MANUFACTURER	Hallcrafters Co., 5th & Kostner Avenues, Chicago 24, Ill.
TYPE SET	AC-DC Operated Multi-Band Commercial Type Superheterodyne Receiver
TUBES (EIGHT)	Types, 6SG7 RF Amp., 6SA7 Converter, 6SK7 1st IF Amp., 6SK7 2nd IF Amp., 6H6 Det.-AVC, 6SC7 AF Amp., 25L6GT Power Output, 25Z6GT Rectifier.
POWER SUPPLY	105-125 Volts AC-DC
RATING	.39 Amp. @ 117 Volts AC
TUNING RANGE-BROADCAST	540-1680KC SHORT WAVE - Band #2- 1680KC-5.4MC, Band #3- 5.3-15.5MC, Band #4- 15.5-44MC

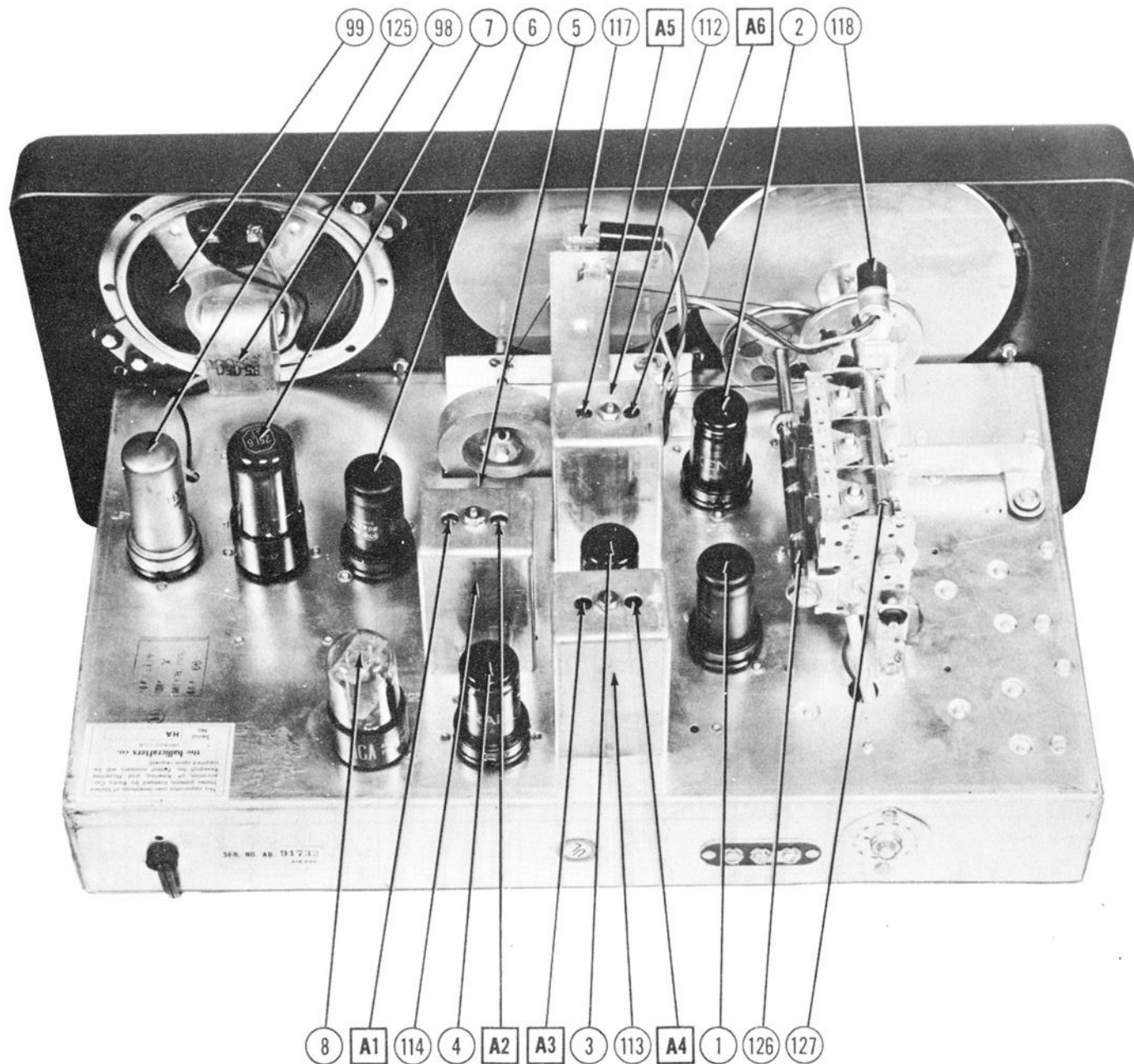
HOWARD W. SAMS & CO., INC.

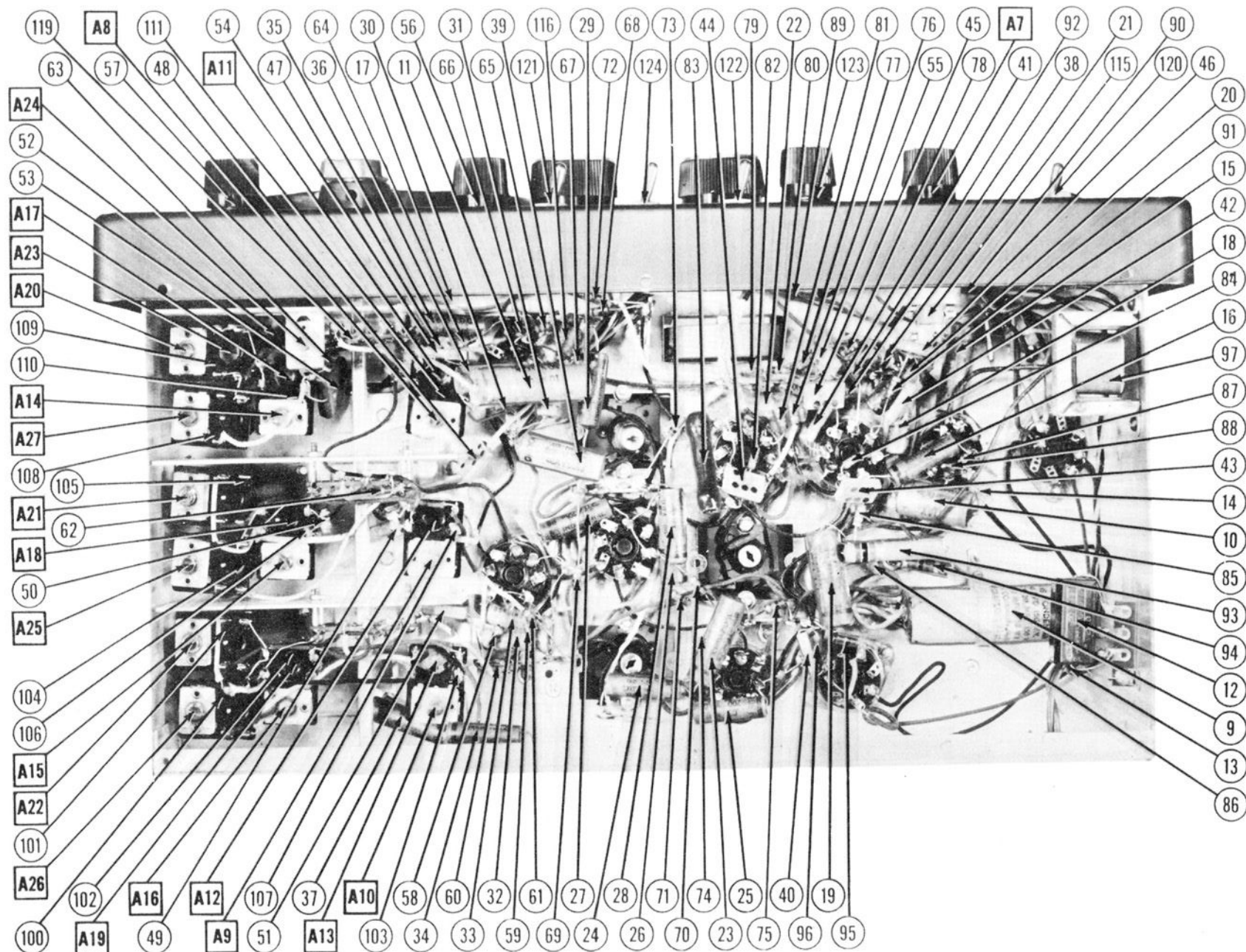
"The listing of any available replacement part herein does not constitute in any case a recommendation, warranty or guaranty by Howard W. Sams & Co., Inc., as to the quality and suitability of such replacement part. The numbers of these parts have been compiled from information furnished to Howard W. Sams & Co., Inc., by the manufacturers of the particular type of replacement part listed."
"Reproduction or use, without express permission, of editorial or pictorial con-

Indianapolis Indiana

tent, in any manner, is prohibited. No patent liability is assumed with respect to the use of the information contained herein. Copyright 1947 by Howard W. Sams & Co., Inc., Indianapolis, Indiana, U. S. A. Copyright under International Copyright Union. All rights reserved under Inter-American Copyright Union (1910) by Howard W. Sams & Co., Inc." Printed in U. S. of America

DATE 10/48-#4818-9 SET #48-FOLDER #9





PARTS LIST AND DESCRIPTIONS

TUBES (SYLVANIA or Equivalent)

ITEM No.	USE	REPLACEMENT DATA		RMA BASE TYPE	INSTALLATION NOTES
		HALLICRAFTERS PART No.	STANDARD REPLACEMENT		
1	RF Amp.	6SG7	6SG7	8BK	
2	Converter	6SA7	6SA7	6R	
3	1st IF	6SK7	6SK7	6N	
4	2nd IF	6SK7	6SK7	6N	
5	Det.-AVC	6H6	6H6	7Q	
6	AF Amp.	6SC7	6SC7	6S	
7	Power Output	25L6GT	25L6GT	7AC	
8	Rectifier	25Z6GT	25Z6GT	7Q	

CAPACITORS

Capacity values given in the rating column are in mfd. for Electrolytic and Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING		REPLACEMENT DATA					IDENTIFICATION CODES AND INSTALLATION NOTES
	CAP.	VOLT	HALLICRAFTERS PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	SOLAR PART No.	SPRAGUE PART No.	
9A	60	150	45B128	FRSA150/20-20	EZ42215#	DSB-403020-150#	TA-530	Filter-Red
B	20	150		FRS150/50	BR2015	M-20-150	UT-201	" -Yellow
C	20	150						" -Blue
10	10	25	45A121	FRS25/10	BR102A	M-10-25	TA-10	Output Cathode Byp.
11	10	150	45A097	FRS150/10	BR1215	M-10-150	UT-121	Conv. Screen Decoup.
12	.02	600	46A203J	684-02	DT6S2	ST-6-02	TC-12	Line Filter
13	.02	600	46A150	684-02	DT6S2	ST-6-02	72P1	Line Isolation
14	.005	600	46A2502J	684-005	DT6D5	ST-6-005	TC-25	Output Plate Bypass
15	.05	600	46AY503J	684-05	DT6S5	ST-6-05	TC-15	Tone Comp.
16	.01	600	46A2103J	684-01	DT6S1	ST-6-01	TC-11	Audio Coupling
17	.02	600	46AU203J	684-02	DT6S2	ST-6-02	TC-12	Vol. Control Isolation
18	.003	600	46A2302J	684-003	DT6D3	ST-6-003	TC-23	Audio Coupling
19	.1	400	46AY104J	484-1	DT4P1	ST-4-1	TC-1	AF Plate Decoupling
20	.01	600	46A2103J	684-01	DT6S1	ST-6-01	TC-11	BFO Coupling
21	.05	600	46AY503J	684-05	DT6S5	ST-6-05	TC-15	Limiter Filter
22	.05	200	46AU503J	484-05	DT2S5	ST-4-05	TC-15	Audio Coupling
23	.05	600	46AY503J	684-05	DT6S5	ST-6-05	TC-15	2nd IF Decoupling
24	.02	200	46AU203J	484-02	DT2S2	ST-4-02	TC-12	AVC Filter
25	.02	200	46AU203J	484-02	DT2S2	ST-4-02	TC-12	2nd IF Cath. Bypass
26	.05	600	46AY503J	684-05	DT6S5	ST-6-05	TC-15	1st IF Decoupling
27	.01	600	46A2103J	684-01	DT6S1	ST-6-01	TC-11	1st IF Cath. Bypass
28	.02	200	46AU203J	484-02	DT2S2	ST-4-02	TC-12	AVC Filter
29	.01	600	46A2103J	684-01	DT6S1	ST-6-01	TC-11	Conv. Plate Decoupling
30	.003	600	46A2302J	684-003	DT6D3	ST-6-003	TC-23	Osc. Coupling
31	.005	600	46A2502J	684-005	DT6D5	ST-6-005	TC-25	Conv. Cathode Bypass
32	.005	600	46A2502J	684-005	DT6D5	ST-6-005	TC-25	RF Screen Bypass
33	.005	600	46A2502J	684-005	DT6D5	ST-6-005	TC-25	FF Cathode Bypass
34	.01	600	46A2103J	684-01	DT6S1	ST-6-01	TC-11	Ext. Gnd. Iso.
35	.01	600	46A2103J	684-01	DT6S1	ST-6-01	TC-11	Conv. Screen Bypass
36	.05	200	46AU503J	484-05	DT2S5	ST-4-05	TC-15	Conv. Screen Decoup.
37	.05	200	46AU503J	484-05	DT2S5	ST-4-05	TC-15	RF Bypass
38	.02	200	46AU203J	484-02	DT2S2	ST-4-02	TC-12	Audio Coupling
39	.03	600		684-03	DT6S3	ST-6-03	TC-13	Line Isolation-See Note
40	220	500	CM20A221M	1468-0002	SW5T2	MO.5-32	1FM-32	RF Byp. Pwr. Supply
41	100	500	CM20A101M	1468-0001	SW5T1	MO.5-31	1FM-31	Flt. Bypass
42	270	500	CM20A271K	1468-00025	SW5T25	MO.5-325	1FM-325	BFO Grid Cap.
43	220	500	CM20A221M	1468-0002	SW5T2	MO.5-32	1FM-32	AF Plate Bypass
44	47	500	CM20A470M	1468-00005	SW5Q5	MO.5-45	1FM-45	Diode Filter
45	47	500	CM20A470M	1468-00005	SW5Q5	MO.5-45	1FM-45	"
46	470	500	CM20A471J					Fixed Trimmer
47	270	500	CM20A271K	1468-00025	SW5T25	MO.5-325	1FM-325	Osc. Grid Cap.
48	56	500	CM20A560K	1468-00005	SW5Q5	MO.5-45	1FM-45	RF Coupling
49	24	300	CC21UK24CM	1468-000025	SW5Q25	MO.5-425	1FM-425	" -Cer.
50	15	300	CC21UK150M					"
51	82	500	CM20A820K	1468-000075	SW5Q75	MO.5-47	MS-47	"
52	1500	300	CM30C152J	1464-0015	1R5D15	MS.5-215	MS-215	Fixed Pad -Silver
53	3000	300	CM30C302K	1464-003	1R5D3	MS.5-23	MS-23	"
54	68	300	CC25UK680K					Fixed Trimmer-Cer.
55	100	500	CM20A101M	1468-0001	SW5T1	MO.5-31	1FM-31	RF Bypass Pwr. Supply

#Parallel sections to obtain desired capacity.
Note-Not used in all models.

PARTS LIST AND DESCRIPTIONS (Continued)

R F COILS

ITEM No.	USE	DC RES.		REPLACEMENT DATA	
		PRI.	SEC.	HALLICRAFTERS PART No.	MEISSNER PART No.
100	Ant. Coil	27.8Ω	6Ω	51B780	
101	"	.4Ω	1.5Ω	51B781	
102	"	.3Ω	.1Ω	51B782	
103	"	.3Ω	0Ω	51B783	
104	RF	.3Ω	5.8Ω	51B784	
105	"	.2Ω	.9Ω	51B785	
106	"	8.1Ω	.2Ω	51B786	
107	"	1.6Ω	0Ω	51B787	
108	Osc.		3.6Ω	51B912	
109	"		1.3Ω	51B789	
110	"		.1Ω	51B913	
111	"		.5Ω	51B791	
112	1st IF	14.5Ω	14.3Ω	50C185	
113	2nd IF	12Ω	12Ω	50C186	
114	3rd IF	18.5Ω	18.5Ω	50C192	
115	BF Osc.Coil		17.5Ω	54B033-2	
116	Cath. Chk.		13Ω	53B438	

DIAL LIGHT

ITEM No.	BASE TYPE	VOLTS	AMPS.	BEAD COLOR	REPLACEMENT DATA		INSTALLATION NOTES
					HALLICRAFTERS PART No.		
117	Bayonet	6-8	0.15	Brown	39A004		Type 47
118	"	6-8	0.15	"	39A004		"

MISCELLANEOUS

ITEM No.	PART NAME	HALLICRAFTERS PART No.	NOTES
119A	Bandswitch	62B039	Ant. Section
B	"	62B039	RF "
C	"	62B044	Osc. "
120	Switch	60A138	Standby
121	"	60A138	AVC
122	"	60A138	ANL
123	"	60A225	Tone/On-Off
124	"	60A138	CW/AM
125A	Ballast Tube	24B875	110 Volt Operation
E	"	24B874	220 Volt Operation
126	3 Gang Var. Cap.	48C136	Bandspread
127	Trimmer	44A149	Main Tuning (12-412MM) each section
"	"	44A148	A8, A9, A10, A15, A16
"	"	44A147	A14
"	"	44A191	A20, A21, A22, A25, A26
"	"	51B912	A24
"	"	83D240	A27
"	"	83B254	Main Bandspread

PARTS LIST AND DESCRIPTIONS (Continued)

CONTROLS

ITEM No.	RATING		REPLACEMENT DATA		INSTALLATION NOTES
	RESIST-ANCE	WATTS	HALLICRAFT- PART No.	CLAROSTAT PART No.	
564	500K Ω	$\frac{1}{2}$	25B586	M-60-Z	Volume Control
57	10K Ω	$\frac{1}{2}$	25B587	Not Req.	Attach to 564 per instructions
				A	Sensitivity Control

RESISTORS

ITEM No.	RATING		REPLACEMENT DATA		IDENTIFICATION CODES
	RESISTANCE	WATTS	HALLICRAFT- PART No.	IRC PART No.	
58	22K	$\frac{1}{2}$	RC20AE220M	BTS-220K	Red-Red-Blk. Parasitic supp.
59	120K	$\frac{1}{2}$	RC20AE121M	BTS-100K	Br.-Red-Br. RF Cathode
60	220K Ω	$\frac{1}{2}$	RC20AE224M	BTS-1000	Red-Red-Yl. RF Grid
61	200K Ω	$\frac{1}{2}$	RC20AE102M	BTS-6500	Br.-Blk.-Red RF Decoup.
62	6800 Ω	$\frac{1}{2}$	RC20AE682K	BTS-1000	Blue-Gray-Red RF Plate Load
63	10K	$\frac{1}{2}$	RC20AE100M	BTS-18K	Br.-Blk.-Blk. Parasitic Suppressor
64	100K Ω	$\frac{1}{2}$	RC20AE102M	BTS-1000	Br.-Blk.-Red Conv. Screen Decoupling
65	18K Ω	$\frac{1}{2}$	RC20AE183K	BTS-1000	Br.-Gray-Or. Osc. Grid
66	6.8K	$\frac{1}{2}$	RC20AE1068K	BTS-1000	Blue-Gray-Gold Parasitic Suppressor
67	1 Meg.	$\frac{1}{2}$	RC20AE105M	BTS-1000	Br.-Blk.-Gn. Conv. Grid
68	100K Ω	$\frac{1}{2}$	RC20AE102K	BTS-1000	Br.-Blk.-Red Conv. Cathode
69	100K Ω	$\frac{1}{2}$	RC20AE102K	BTS-1000	Br.-Blk.-Red Conv. Plate Decoup.
70	100K Ω	$\frac{1}{2}$	RC20AE102K	BTS-1000	Br.-Blk.-Red 1st IF Cathode
71	100K Ω	$\frac{1}{2}$	RC20AE102K	BTS-1000	Br.-Blk.-Red 1st IF Decoup.
72	150K Ω	$\frac{1}{2}$	RC20AE151M	BTS-1500	Br.-Gn.-Br. AVC Shorting Resistor
73	100K Ω	$\frac{1}{2}$	RC20AE102M	BTS-1000	Br.-Blk.-Yl. AVC Network
74	100K Ω	$\frac{1}{2}$	RC20AE102K	BTS-1000	Br.-Blk.-Red 2nd IF Cathode
75	47K Ω	$\frac{1}{2}$	RC20AE473M	BTS-47K	Br.-Blk.-Red 2nd IF Decoup.
76	100K Ω	$\frac{1}{2}$	RC20AE102M	BTS-1000	Yl.-Vi.-Or. Diode Filter
77	350K Ω	$\frac{1}{2}$	RC20AE353M	BTS-350K	Br.-Blk.-Yl. Diode Load
78	100K Ω	$\frac{1}{2}$	RC20AE102M	BTS-1000	Or.-Or.-Yl. Diode Load
79	1 Meg.	$\frac{1}{2}$	RC20AE105M	BTS-1000	Red-Red-Gn. AVC Network
80	470K Ω	$\frac{1}{2}$	RC20AE473M	BTS-470K	Br.-Blk.-Gn. Limiter Network
81	2.2 Meg.	$\frac{1}{2}$	RC20AE225M	BTS-2.2 Meg.	Yl.-Vi.-Yl. " "
82	2.2 Meg.	$\frac{1}{2}$	RC20AE225M	BTS-2.2 Meg.	Red-Red-Gn. " "
83	110K	$\frac{1}{2}$	24BG111E	AB-100	Limiter Filament Shunt
84	10 Meg.	$\frac{1}{2}$	RC20AE105M	BTS-10 Meg.	Br.-Blk.-Blue 1st AF Grid
85	330K Ω	$\frac{1}{2}$	RC20AE334M	BTS-330K	Or.-Or.-Yl. 1st AF Plate Load
86	100K Ω	$\frac{1}{2}$	RC20AE104M	BTS-100K	Br.-Blk.-Yl. 1st AF Plate Decoup.
87	470K Ω	$\frac{1}{2}$	RC20AE474M	BTS-470K	Yl.-Vi.-Yl. Output Grid
88	150K	$\frac{1}{2}$	RC20AE151M	BM-2-150	Br.-Gn.-Br. Output Cathode
89	4700 Ω	$\frac{1}{2}$	RC20AE472M	BTS-4700	Yl.-Vi.-Red Tone Comp.
90	15K	$\frac{1}{2}$	RC20AE150M	BM-1-15	Br.-Gn.-Blk. Output Transformer Sec. Loading
91	47K Ω	$\frac{1}{2}$	RC20AE473M	BTS-47K	Yl.-Vi.-Or. BFO Grid
92	15K Ω	$\frac{1}{2}$	RC20AE153M	BTS-15K	Br.-Gn.-Or. BFO Plate
93	100K Ω	$\frac{1}{2}$	RC40AE102K	BM-2-1000	Br.-Blk.-Red " "
94	100K Ω	$\frac{1}{2}$	RC30AE101K	BM-1-100	Br.-Blk.-Br. " "
95	15K	$\frac{1}{2}$	RC20AE150M	BM-2-15	Br.-Gn.-Blk. Surge Limiter
96	270K Ω	$\frac{1}{2}$	RC20AE224M	BTS-270K	Red-Vi.-Yl. Line Isolation

TRANSFORMER (OUTPUT)

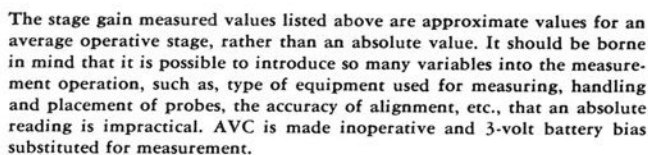
ITEM No.	RATING		REPLACEMENT DATA		INSTALLATION NOTES
	IMPEDANCE	DC RES.	HALLI-CRAFTERS PART No.	THORDARN PART No.	
97	1800 Ω	58 PRI SEC	55A110		
		1800 tapped			
		1800 tapped			
		1800 tapped			

SPEAKER

ITEM No.	RATINGS		REPLACEMENT DATA		INSTALLATION NOTES
	FIELD	VC IMP.	HALLICRAFTERS PART No.	QUAM PART No.	
98	PH	8.25	85B050	ST-1054	
99	CONC. DIA.	VC DIA.		Mod. PS-X	#Fabricate new mounting brackets.
	4-3/4"	9/16"		5A154	

ALIGNMENT INSTRUCTIONS--READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT						
Standard dummy antenna consists of a 200 MFD cap. in series with a 20 Microhenry RF Choke, the choke being shunted by a 400 MFD cap. in series with a 400 Ω carbon resistor.						
To set main tuning dial turn main tuning cap. fully closed and set main dial to "0" on logging scale. To set bandspread dial turn bandspread tuning cap. fully open and set bandspread dial to "0".						
Use isolation transformer if available. If not connect a .1 MFD capacitor in series with low side of signal generator and B-.						
Controls should be set as follows unless otherwise noted: sensitivity at maximum, volume at maximum, AVC switch at OFF, bandspread dial set at zero, CW/AM switch at AM, noise limiter switch at Off, standby receive switch at "receive", and tone switch at high. Output of sig. gen. should be no higher than necessary to obtain output reading. Use an insulated alignment screwdriver for adjusting.						
DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	BAND SWITCH POS.	RADIO DIAL SETTING	OUTPUT METER	ADJUST
1 Direct	High side to center stator of tuning cap. Low side to chassis.	455KC	Band 1	1000KC	Across voice coil	A1,A2, A3,A4, A5,A6
2 "	"	455KC (Unmodulated)	1	"	"	A7
3 See pre-align- notes.	High side to ant. terminal "A1". Low side to "A2" with link connected.	36MC	Band 4	36MC	"	A8
4 "	"	"	"	Tune for maximum output.	"	A9,A10
5 "	"	18MC	"	18MC	"	A11, A12, A13
6 "	"	14MC	Band 3	14MC	"	A14
7 "	"	"	"	Tune for maximum output.	"	A15, A16
8 "	"	10MC	"	10MC	"	A17, A18, A19
9 "	"	5MC	Band 2	5MC	"	A20
10 "	"	"	"	Tune for maximum output.	"	A21, A22
11 "	"	1.8MC	"	1.8MC	"	A23
12 "	"	1500KC	Band 1	1500KC	"	A24
13 "	"	"	"	Tune for maximum output.	"	A25, A26
14 "	"	600KC	"	600KC	"	A27





VOLTAGE AND RESISTANCE READINGS TAKEN IN BROADCAST POSITION.

VOLTAGE READINGS

Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8
1	6SG7	0V.	24VAC	.8VDC	0V.	.8VDC	80VDC	18VAC	80VDC
2	6SA7	0V.	18VAC	85VDC	80VDC	-4.4VDC§	8.8VDC	12VAC	1.2VDC
3	6SK7	0V.	24VAC	3.8VDC	0V.	3.8VDC	75VDC	31VAC	75VDC
4	6SK7	0V.	37VAC	0V.	0V.	4VDC	80VDC	31VAC	80VDC
5	6H6	0V.	0V.	-.1VDC	0V.	-.3VDC	-.4VDC	4.8VAC	0V.
6	6SC7	0V.	80VDC	-1.5VDC§	-.6VDC	50VDC	0V.	4.8VAC	12VAC
7	25L6GT	0V.	60VAC	110VDC	85VDC	0V.	0V.	37VAC	6.5VDC
8	25Z6GT	0V.	85VAC	117VAC	125VDC	117VAC	125VDC	60VAC	125VDC

§TAKEN WITH VACUUM TUBE VOLTMETER.

RESISTANCE READINGS

Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8
1	6SG7	270KΩ	20Ω	120Ω	3 Meg.	120Ω	90KΩ	15Ω	90KΩ
2	6SA7	270KΩ	15Ω	90KΩ	90KΩ	18KΩ	1KΩ	10Ω	1 Meg.
3	6SK7	270KΩ	20Ω	1000Ω	2.7 Meg.	1000Ω	90KΩ	25Ω	90KΩ
4	6SK7	270KΩ	30Ω	270KΩ	2.6 Meg.	1000Ω	90KΩ	2.5Ω	90KΩ
5	6H6	270KΩ	0Ω	2.2 Meg.	2 Meg.	480KΩ	500KΩ	5Ω	0Ω
6	6SC7	270KΩ	105KΩ	47KΩ	10 Meg.	520KΩ	0Ω	5Ω	10Ω
7	25L6GT	INF.	40Ω	90KΩ	90KΩ	470KΩ	0Ω	30Ω	150Ω
8	25Z6GT	INF.	60Ω	130Ω	90KΩ	130Ω	90KΩ	40Ω	90KΩ

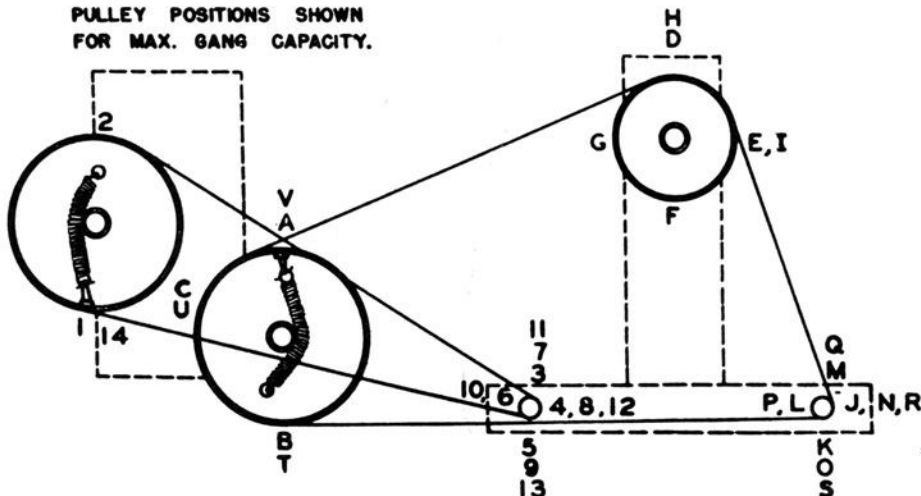
TONE CONTROL IN HIGH POSITION. CW AM SWITCH IN SW POSITION FOR TUBE #6 (6SC7).
STANDBY SWITCH IN RECEIVE POSITION. SENSITIVITY CONTROL SET AT MAXIMUM POSITION.
VOLUME CONTROL AT MINIMUM. NOISE LIMITER IN "ON" POSITION. AVC IN "ON" POSITION.

RESISTANCE READINGS IN THE B+ CIRCUITS MAY VARY WIDELY
ACCORDING TO THE CONDITION OF THE FILTER CAPACITORS

1. DC Voltage measurements are at 20,000 ohms per volt; AC Voltages measured at 1,000 ohms.
2. Socket connections are shown as bottom views.
3. Measured values are from socket pin to common negative.
4. Line voltage maintained at 117 volts for voltage readings.
5. Nominal tolerance on component values makes possible a variation of $\pm 15\%$ in voltage and resistance readings.
6. Volume control at maximum, no signal applied for voltage measurements.

RESTRINGING DIAL CORD

PULLEY POSITIONS SHOWN
FOR MAX. GANG CAPACITY.



To restring the general coverage tuning dial cord, cut an 18-inch length of 30 lb. test dial cord and tie one end to the tension spring of the main tuning capacitor drive pulley at position "1" on the diagram. Follow the numbers "1" through "14", and at position "14" stretch the tension spring and tie the cord securely.

To restring the band spread tuning dial cord, cut a 36-inch length of dial cord and follow the procedure as above, starting at position "A" on the diagram. Note that the tuning drive shafts are wrapped with three turns of dial cord for proper traction.